



DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, DC 20380

MCO 8420.14A
SST
6 Apr 94

MARINE CORPS ORDER 8420.14A

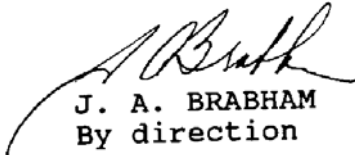
From: Commandant of the Marine Corps
To: Distribution List

Subj: MATERIEL FIELDING PLAN FOR THE REMOTE ENGAGEMENT TARGET
SYSTEM

Ref: (a) MCO P4105.3

Encl: (1) Materiel Fielding Plan for the Remote Engagement
Target System (RETS)

1. Purpose. To inform the Fleet Marine Force and other selected commands of updated information concerning the subject equipment.
2. Cancellation. MCO 8420.14.
3. Information. The enclosure to this Order provides the latest logistical information available on the equipment.
4. Action. Addressees shall comply with the requirements of the reference and the provisions of this Order.
5. Reserve Applicability. This Order is not applicable to the Marine Corps Reserve.


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By direction

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MATERIEL FIELDING PLAN
FOR THE REMOTE ENGAGEMENT TARGET SYSTEM
(RETS)

1. Introduction

a. Source of Requirement. Marine Corps Combat Development Command (MCCDC) Training Device Requirement of 11 May 1990 for the RETS.

b. Points of Contact

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c. Fielding Methodology

(1) General Fielding Plan. Based on Marine Corps training standards and standard range designs currently listed in U.S. Army Corps of Engineers Manuals (CEHND/HNDM 1110-1 series), the RETS has been fashioned into several subsystems composed of different configurations of the same equipment. These configurations include the Multipurpose Range Complex (MPRC), Combined Arms Exercise (CAX) Target System, Multipurpose Machine Gun range, Armor/Anti-Armor Live Fire Tracking range, Multipurpose Training range, Infantry Defensive range, and Infantry Platoon and Squad Battle Courses. To date the CAX Target System, two MPRC's and six infantry ranges have been procured and installed. Twentynine more RETS ranges are scheduled for procurement between FY 94 and FY 01. The proposed fielding of RETS equipment to Marine Corps bases and installations is depicted in Appendix A.

(2) Method of Fielding. The RETS fielding schedule and addresses to which shipments will be made are provided in Appendices A and D respectively. Future RETS distribution will be determined by CG MCCDC (Code C 465).

d. Replaced Systems Equipment. The RETS does not replace any existing fielded items.

2. System Descriptiona. Administrative Information

(1) Nomenclature: Remote Engagement Target System.

(2) Table of Authorized Materiel Control Number: N/A.

(3) Stores Account Code: 3.

(4) The Marine Corps RETS is comprised of the following major components:

NATIONAL STOCK
NUMBER (NSN)

NOMENCLATURE

6920-01-235-1758

Target Holding Mechanism, Tank Gunnery (THM/TG) (This model is hard-wired; another model, radio controlled, is also available.)

6920-01-147-8589

Track System, Target, Training Set

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| | |
|------------------|--|
| 6920-01-142-2858 | Target Holding Set, Training Set |
| 6920-01-154-3958 | Console Target Training Set, Range Control Station (RCS) |
| 6920-01-211-8369 | Simulator, Target Kill |
| 6920-01-146-3046 | Simulator, Sound, Small Arms |
| 6920-01-146-3050 | Simulator, Muzzle Flash, Small Arms |
| 6920-01-142-2797 | Interconnecting Box, Target Interface Unit |
| 5895-01-142-2798 | Interconnecting Box, High-Power |
| 5975-01-142-2799 | Interconnecting Box, Low-Power |
| 6920-01-164-9625 | Target, Three Dimensional |
| 6920-01-185-9278 | Armor Moving Target carrier |
| 6920-01-211-8370 | Range Control Station Adapter |

The following components are included even though they are not part of RETS, but rather only interface with RETS equipment, and are employed only in the CAX Target System:

| | |
|-------------------|----------------------------------|
| Part No. AY8600-1 | Offensive Range Controller (ORC) |
| Part No. AY8450 | Target Control Assembly (TCA) |

(5) Unit of Issue: N/A.

(6) Unit Cost: System cost is site specific, depending upon configuration and quantity of targets. The prices listed below are current as of the publication of this Order, but are subject to change.

| <u>Nomenclature</u> | <u>Price</u> |
|----------------------------------|--------------|
| Infantry Target Mechanism | \$1,858.00 |
| Infantry Moving Target Mechanism | \$5,608.00 |

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| | |
|---|--------------|
| Target Holding Mechanism, Tank Gunnery | \$8,023.00 |
| Armor Moving Target Carrier | \$155,062.00 |
| Range Control Station (Enhanced RETS) | \$38,427.00 |
| Target Interface Unit | \$2,362.00 |
| Low Power Junction Box | \$802.00 |
| High Power Junction Box | \$603.00 |
| Infantry Hostile Fire Simulator | \$1,779.00 |
| Infantry Night Muzzle Fire Simulator | \$473.00 |
| Armor Target Kill Simulator | \$1,624.00 |
| Target, Three Dimensional | \$9.00 |
| Range Control Station Adapter | \$5,566.00 |
| Installation of Equipment (30% of the total equipment cost) | |

(7) Support Cost: Varies as a result of system configuration and site location.

(8) Petroleum, Oil, and Lubricants (POL). For POL needs of the individual items of RETS equipment, consult the appropriate component technical manual.

(9) Equipment Density: Normal.

(10) Readiness Reporting: N/A.

(11) Power Requirements

(a) RETS. Infantry RETS require 120/240 Volts Alternate Current (VAC), 60 Hz; and the Armor RETS require 120 VAC, single phase, and 480 VAC, three phase, 60 Hz commercial electric power. The total range wattage and amperage requirements depend on both the number of target mechanisms installed and the highest percentage of target mechanisms that will be in operation simultaneously.

(b) CAX Target System. The target mechanisms in the CAX Target System are powered by dedicated 12 Volts Direct Current (VDC), deep cycle, marine batteries, which are kept fully charged by solar panels mounted on or near the mechanism. The

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ORC's in the CAX Target System are powered by an internal 12 VDC lead acid (jell) battery which can be recharged by an organic battery charger without being removed from the equipment. The battery charger is operated from a 115 VAC, 60 Hz outlet. There is also a 3.6 volt internal memory battery located inside the control module. This battery maintains the nonvolatile memory.

b. Physical Characteristics. RETS is an Army type classified (standard), weather resistant system comprised of moving and stationary infantry and armor targets, which are controlled remotely either by radio or from a hardwired RCS. A brief description of the major components follows.

(1) NSN 6920-01-235-1758, Target Holding Mechanism, Tank Gunnery (THM/TG). A stationary target assembly designed to be raised and lowered by remote or computer control and lowered by impact. This stationary target depicts the front view of an enemy armored vehicle. It has a self contained power source and the capability of providing sensor induced pyrotechnics as a visual indication of hostile fire, a hit, or a kill. The NSN listed is a hardwired version; the CAX Targetry version has been modified to include radio control and feedback for later scoring by controllers. (U.S. Army Line Item Number (LIN) T42462.)

(2) NSN 6920-01-147-8589, Track System, Target, Training Set. The Infantry Moving Target Carrier is a direct current motor driven rail system used to move the target mechanism at a selected speed for use in small arms marksmanship training. The carrier uses a 12 meter aluminum track as a guide for target movement. Major sub-units include the track section and the drive section. (U.S. Army LIN T74607.)

(3) NSN 6920-01-142-2858, Target Holding Set, Training. The Infantry Target Mechanism is an environmentally sealed unit designed to provide signal interface with the control station and mechanical control of infantry targets. Signals transmitted via underground hardwired cables will be used to raise and lower two- and three-dimensional personnel targets in a stationary or moving configuration, and will sense all small arms weapons hits. (U.S. Army LIN T26721.)

(4) NSN 6920-01-154-3958, Console Target Training Set, RCS. An electronic system designed to provide automatic and manual control and hit scoring and reporting for the ranges. The unit includes a printer, keyboard, central processing unit and a cathode ray tube monitor. The station is designed for installation in a range control tower and operates from 115/230 VAC, 50/60 Hz power. More on this item can be found in paragraph 2c below. (U.S. Army LIN C83928.)

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(5) NSN 6920-01-211-8369, Simulator, Target Kill. The Armor Target Kill Simulator, provides hostile fire, target hit, and target kill simulation through the use of noise and smoke effects. This device has a capacity for 20 pyrotechnic devices to be loaded at one time and requires the use of the M21 Pyrotechnic Cartridge (Department of Defense Identification Code (DoDIC) L602), to simulate hostile tank main gun fire; a steel-on-steel pyrotechnic charge (DoDIC L709), to simulate a hit; and a black smoke pyrotechnic charge (DoDIC L720) to simulate a kill. (U.S. Army LIN S58662.)

(6) NSN 6920-01-146-3046, Simulator, Sound, Small Arms. The Infantry Hostile Fire Simulator simulates the audio portion of hostile rifle fire. A spark plug which ignites a mixture of oxygen and propane provides the sound. The simulator requires input power of 24 VDC @0.5 amps. This simulator requires the use of propane and oxygen, in bottles, to be provided by the user. (U.S. Army LIN S58433.)

CAUTION: Materials must be handled in accordance with requirements for flammable material.

(7) NSN 6920-01-146-3050, Simulator, Muzzle Flash, Small Arms. The Infantry Night Muzzle Flash Simulator will visually simulate a hostile small arms muzzle flash. The simulator requires input power of 24 VDC @0.1 amp. (U.S. Army LIN S56789.)

(8) NSN 6920-01-142-2797, Interconnecting Box, TIU. The TIU is an environmentally protected electronic unit that provides interface between the control console and selected target systems, specifically the THM/TG and Armor Moving Target Carrier. (U.S. Army LIN J96749.)

(9) NSN 5895-01-142-2798, Interconnecting Box, High-Power. The High Power Junction Box is an environmentally protected electrical enclosure that contains electrical and electronic components which convert 240 VAC to 24 VDC at 50 amps. Transient protection circuitry is included in the junction box to protect power and data circuits. (U.S. Army LIN J40844.)

(10) NSN 5975-01-142-2799, Interconnecting Box, Low-Power. The Low Power Junction Box, is an environmentally protected electrical enclosure that contains electrical and electronic components which convert 240 VAC to 24 VDC at 15 amps. Transient protection circuitry is included in the junction box to protect power and data circuits. (U.S. Army LIN J96681.)

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(11) NSN 6920-01-164-9625, Target, Three Dimensional. This is an expendable, multipurpose, self-healing plastic target capable of extended use with RETS carriers. (U.S. Army LIN N/A.)

(12) NSN 6920-01-185-9278, Armor Moving Target Carrier (AMTC). The AMTC carries a target that is a realistic simulation of an armor vehicle as seen from the flank. It is used on armor and combined arms ranges during live fire marksmanship training and qualification programs, and it provides training in detection, identification, and engagement of a moving tank target under combat conditions. Data is used to evaluate a tank crew's ability to lead and track moving targets accurately, and to adjust for weapon ballistics at various target distances. (U.S. Army LIN M79549.)

(13) NSN 6920-01-211-8370, RCS Adapter. The RCS Adapter is used to monitor and verify the operability of a number of RETS devices while in a system configuration. The adapter is also used to activate, for diagnostic purposes, any RETS device while in a repair status at a shop area. (U.S. Army LIN Z00282.)

(14) Part No. AY8600-1, ORC. The ORC is used exclusively with the CAX Target System. It is a self contained control unit that is operated by an exercise controller and exchanges data with the TCA's, which are installed into the target lifting mechanisms. This allows the user to control the targets on the range (via ultra high frequency radio) and to collect and later print out information required to debrief and critique exercise participants. (U.S. Army LIN N/A.)

(15) Part No. AY8450, TCA. The TCA is used exclusively with the CAX Target System. It is an electronic control mechanism with two-way radio frequency communication capability and the ability to control a THM/TG. It can raise the target on command and lower the target on command or when it detects the number of ballistic hits preset by the user. Additionally, the TCA can fire pyrotechnic devices in response to detected ballistic rounds striking the target or to commands received from the ORC. (U.S. Army LIN N/A.)

c. Operational Characteristics. RETS equipment uses a RCS, usually referred to as the Enhanced RETS (ERETS), that provides for the control and status monitoring of up to 512 independent target mechanisms (moving or stationary, infantry or armor). The RCS has the capability for both manual and automatic range operations and includes either one or two IBM compatible computers, a scoring printer, a signal distribution assembly, and a tower junction box. Signal transmission between the RCS and the target mechanisms can be by either radio or hardwired data links. As of

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now all Marine Corps RETS ranges installed or envisioned will transmit data utilizing the hardwired version. The CAX Target System, which does not have a RETS RCS, is the exception.

d. Associated Systems and Equipment. N/A.

3. Logistic Support

a. Maintenance Support. All levels of maintenance, to include depot, will be performed by a commercial concern which will be specifically contracted to maintain these systems at each location under a Contractor Operation and Maintenance of simulators (COMS) contract. (The local Training and Audio Visual Support Center (TAVSC) will have accountability for the equipment and will sub-custody it to the COMS contractor.)

b. Contractor Support Requirements

(1) Depot support. Included in the COMS contract.

(2) Interim Contractor Support (ICS). ICS is not required for RETS as the COMS contract will already be in effect when the range opens.

c. Manpower, Personnel, and Training

(1) Manpower and Personnel Requirements. There will be no increase in military manpower requirements resulting from the installation of this training device.

(2) Training Requirements

(a) An 80-hour operator and organizational maintenance training course will be conducted by a representative from U.S. Army Armament, Munitions, and Chemical Command (AMCCOM), Rock Island, IL, at each RETS location immediately upon installation and acceptance of the RETS by the government. This course will be attended by COMS personnel and those Marine Corps personnel tasked with surveillance of the COMS contractor.

(b) Intermediate maintenance training will be conducted at the Rock Island Arsenal by AMCCOM, and is scheduled by the Program Manager for Training Systems (PM TRASYS), Marine Corps Systems Command (MARCORSSYSCOM). There is a 40-hour course for infantry ranges and a 104-hour course for armor ranges. The Army absorbs the tuition costs and the using entity (either the COMS contractor for its personnel or the Marine Corps for its personnel) pays for travel, per diem, and miscellaneous costs of the trip.

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(c) Maintenance sustainment training, in both the 40- and 104-hour courses, will be conducted on an as needed basis at AMCCOM. Commands requiring sustainment training should notify PM TRASYS, MARCORSYSCOM for scheduling.

(d) Logistics and maintenance familiarization courses have been established at AMCCOM. Contact PM TRASYS, MARCORSYSCOM for more information.

(3) Training Support Items. Organizational maintenance training will be conducted on the range itself, along with some classroom instruction. Required training aids (a classroom, a chalkboard, an overhead projector, and screen) are to be provided by the receiving command.

d. Supply support. Though all equipment will be the responsibility of the command's TAVSC, it will, in fact, be turned over to and signed for by the COMS contractor when placed in service. Initial issue of spare and repair parts will be accomplished by the Marine Corps. The COMS contractor will be responsible for obtaining all required spare and repair parts and other consumables other than three dimensional plastic targets and the initial issue.

e. Support Equipment. There is only one special tool that is required to maintain RETS equipment, a RCS Adapter (one per base), which will be overpacked with the RETS equipment for the first range to be installed at each location. This adapter is maintained by the COMS contractor, and used with the RCS. There are a number of common tools and tool sets, as well as common test, measurement, and diagnostic equipment (TMDE) needed to maintain the RETS equipment. For complete lists of these common tools, tool sets, and TMDE see the applicable technical manual.

f. Technical Publications and Configuration Management Requirements

(1) Publications

(a) Technical Manuals. U.S. Army Technical Manuals are used in the installation, operation, and maintenance of the RETS. These manuals are in the process of being corrected, updated, and reissued. Copies of the old manuals for all applicable equipment have been provided to each receiving command. The new manuals will be automatically forwarded to each receiving command as they become available. Additionally, a set will be issued to each student who attends one of the courses described in paragraph 3c(2) above. The student's copies remain the

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property of the government and should be turned over to the student's command on his or her return to base. Additional technical manuals will be stocked at MARCORLOGBASES, (Code 876), Albany, and may be requisitioned by using units when needed. Publication Control Numbers will be assigned at a later date. A listing of both the old and new technical manual numbers and the equipment to which they pertain are contained in Appendix B.

(b) Design Manuals. The design manuals from the U.S. Army Corps of Engineers, Huntsville Division listed in Appendix C, are recommended as the primary reference in considering the design of new RETS ranges to be built and installed. Copies of each of these have been sent to all bases scheduled to receive RETS ranges. These manuals are updated on a periodic basis.

(2) Configuration Management Requirements. AMCCOM will provide configuration management of the RETS equipment throughout its life cycle.

g. Computer Resources Support. Installations receiving RETS equipment have no responsibility for technical data management or software maintenance and development. However, during the 80-hour operator and organizational maintenance course blank computer disks are issued to the operators who are taught to develop and record their own scenario programs. These scenario programs tell the computer the sequence in which to raise and lower the targets and fire the simulators. The COMS contractor at each installation is tasked with maintaining a software library on all scenarios developed during RETS use.

h. Facilities

(1) A Memorandum of Agreement (MOA) has been negotiated between the U.S. Naval Facilities Engineering Command, the U.S. Army Corps of Engineers, Huntsville Division (CEHND), and the U.S. Marine Corps, addressing RETS range facilities. This Order has been developed in conjunction with that MOA to assist the user in addressing facilities, range design, and construction required for the RETS. A copy of the MOA is available on request from PM TRASYS, MARCORSYSCOM. Military construction and funding documentation has been initiated by effected commands to accommodate all or some of the following equipment and facilities at each RETS range, as appropriate (list is not to be considered all-inclusive):

(a) Target carriers and devices (does not include previously identified RETS equipment).

(b) Underground data cables or buried power lines.

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(c) Tank trails.

(d) Access and maintenance roads.

(e) Protective target emplacements.

(f) Hull down positions.

(g) Firing points.

(h) Support facilities, which may include range control towers, heads, maintenance and storage buildings, ammunition breakdown buildings, classrooms, and bleachers.

(2) When range construction and facility preparations are complete and ready for acceptance, and prior to installation of the RETS equipment, a Site Interface Inspection (SII) will be conducted by representatives of AMCCOM, CEHND, MCCDC, the installation contractor, and the MARCORSYSCOM project officer as a final check. The installation contractor must agree that the range has been so constructed that the RETS equipment can be installed before it can be accepted. Upon completion of construction and installation of a RETS range, the gaining command will be responsible for the maintenance and upkeep of the grounds and facilities.

i. Packaging, Handling, Storage, and Transportation

(1) Packaging. The RETS individual components will be packaged in accordance with MIL-STD-1367A. Installation preservation, packaging, and packing sections will be responsible for packaging any parts or components being shipped for depot repair.

(2) Handling. The majority of the RETS equipment does not require any special handling; however, the AMTC has exposed hydraulic tubes and must be handled carefully. Specifically, the wooden pallet upon which the AMTC is shipped must be retained for use in moving the AMTC after the installing contractor has completed work and departed. Also, when loading and unloading the device, a 5,000 pound capacity forklift with (as a minimum) 5 1/2 foot forks must be used. When the AMTC arrives at the site, using units should not off-load the AMTC from its pallet but rather have it delivered as close as possible to the range and allow the installing contractor to supervise its unloading. In all, close coordination with the contractor is required to prevent unnecessary delays during setup.

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(3) Storage. There are four different types of storage requirements for the RETS system, such as a warehouse containing work areas for repair and maintenance of equipment; storage areas for spare and repair parts as well as contractor equipment; a battery charging facility; an ammunition storage facility; and a storage facility for compressed gases. These need not be exclusive to RETS; e.g., the pyrotechnics could be stored at the base ammunition storage facility. If a COMS contract exists, its provisions may change facility requirements from what would normally be used. Ammunition storage must be in accordance with the provisions of OP 5, Volume 1.

(4) Transportation. The RETS individual components can be transported from, to, or between the contractor's plant, appropriate military installations, and using units throughout the world via rail, truck, air, or water carriers, without restrictions and following normal security procedures. An exception to this is that pyrotechnics must be transported in accordance with CFR 49. Once installed a RETS system cannot be transported.

j. Warranties. The RETS contractor has provided to the government a warranty that states, "All supplies furnished under the contract will be free from defects in material or workmanship and will conform to specified operational characteristics contained in the contract for 360 days beyond the date of range acceptance by the government." Further coverage states:

(1) "All supplies furnished under the contract will be free from defects in material or workmanship and will conform with all requirements of the contract."

(2) "When return, correction, or replacement is required, transportation charges and responsibility for the supplies while in transit shall be borne by the contractor. However, the contractor's liability for the transportation charges shall not exceed an amount equal to the cost of transportation by the usual commercial method of shipment between the place of delivery specified in the contract and the contractor's plant, and return."

(3) "Any supplies or parts thereof, corrected or furnished in replacement, shall also be subject to the terms outlined above."

4. Actions Required To Place Equipment In Service

a. Gaining Command. The following support may be required prior to, during, or following RETS equipment installation:

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(1) Range layout information and points of contact for the various teams and organizations involved.

(2) Secure storage for material sent in advance of the installation (e.g., hardware, training aids, publications, etc.). This would include government and contractor material. It should be noted that RETS targetry equipment is considered contractor owned until installed on the range.

(3) Electrical power to run the range. This should be the same kind of power, i.e. generator or commercial, that will be used to operate the range once it is activated.

(4) Portable heads at installation site, if no other facilities are reasonably accessible.

(5) Familiarization class for contractor personnel on unexploded ordnance.

(6) Vehicle and personnel passes, as required, for use by the contractor.

(7) Emergency medical support (EMS) to include ambulance or helicopter evacuation. EMS will be required to stabilize and transport patient(s) from the work site to a medical facility (civilian or government) in the event that medical attention is required.

(8) Exclusive access to the range for the period of installation. This exclusive access is not intended to preclude visits to the range by authorized personnel to observe the installation.

(9) Other support as may be requested by the contractor and is related to site preparation and equipment installation.

(10) Classroom (with chalkboard, overhead projector, and screen) as required by the AMCCOM to conduct operator and organizational maintenance training. (The maximum number of students should be 10, plus the instructor and two observers.)

b. Commander, MARCORSYSCOM

(1) Effect timely interface and coordination between AMCCOM, CEHND, and receiving commands.

(2) Participate in all aspects of the RETS program.

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c. Commander, AMCCOM

(1) Provide a representative to participate in the SII.

(2) When installation is complete, a representative of AMCCOM will conduct an acceptance inspection on behalf of the government. Upon successful completion, the range will be turned over to the Marine Corps.

(3) Present the operator and organizational maintenance course at the receiving command.

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DELIVERY SCHEDULE AND LIST OF ALLOWANCES

| <u>COMMAND/PROJECT NO.</u> | <u>TYPE</u> | <u>DELIVERY</u> |
|----------------------------|--|-----------------|
| MCAGCC | | |
| Twentynine Palms | | |
| P-506 | Armor/Anti Armor Live-Fire Tracking Range | 4th Qtr, FY94 |
| P-507 | Multipurpose Machine Gun Range | 4th Qtr, FY95 |
| MCB, Camp Lejeune | | |
| P-949 | Multipurpose Training Range | 4th Qtr, FY94 |
| MCB, Camp Pendleton | | |
| P-547 | Infantry Platoon Assault Range | 4th Qtr, FY94 |
| MCCDC, Quantico | | |
| P-409 | Armor/Anti Armor Live-Fire Tracking Range | 4th Qtr, FY94 |

For details concerning quantities of equipment see the following pages.

Appendix A to
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DELIVERY SCHEDULE AND LIST OF ALLOWANCES

LOCATION: MCAGCC, Twentynine Palms, CA
RANGE NO: 111A
TYPE OF RANGE: ARMOR/ANTI-ARMOR LIVE FIRE TRACKING RANGE
FACILITY FUNDING INFO: P506
ESTIMATED CONSTRUCTION COMPLETION: 1995
ESTIMATED SITE INTERFACE INSPECTION: 1995
ESTIMATED EQUIPMENT INSTALLATION: 1996
ESTIMATED EQUIPMENT COST: \$1,132K

EQUIPMENT LISTING

| <u>ITEM</u> | <u>QUANTITY</u> |
|---|-----------------|
| Range Control Station, Enhanced Remote Engagement Target System (ERETS) | 1 |
| Target Holding Mechanism, Tank Gunnery | 8 |
| Armor Moving Target Carrier | 4 |
| Low Power Junction Box | 12 |
| Target Interface Unit | 12 |
| Armor Target Kill Simulator | 24 |

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DELIVERY SCHEDULE AND LIST OF ALLOWANCES

LOCATION: MCCDC, Quantico, VA
RANGE NO: 409
TYPE OF RANGE: ARMOR/ANTI-ARMOR LIVE FIRE TRACKING RANGE
FACILITY FUNDING INFO: P409
ESTIMATED CONSTRUCTION COMPLETION: 1995
ESTIMATED SITE INTERFACE INSPECTION: 1995
ESTIMATED EQUIPMENT INSTALLATION: 1996
ESTIMATED EQUIPMENT COST: \$710K

EQUIPMENT LISTING

| <u>ITEM</u> | <u>QUANTITY</u> |
|--|-----------------|
| Range Control Station (ERETS) | 1 |
| Target Holding Mechanism, Tank Gunnery | 8 |
| Armor Moving Target Carrier | 4 |
| Low Power Junction Box | 12 |
| Target Interface Unit | 12 |
| Armor Target Kill Simulator | 24 |

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DELIVERY SCHEDULE AND LIST OF ALLOWANCES

LOCATION: MCB, CAMP LEJEUNE, NC

RANGE NO: SR-7

TYPE OF RANGE: MULTIPURPOSE TRAINING RANGE

FACILITY FUNDING INFO: P949

ESTIMATED CONSTRUCTION COMPLETION: 1995

ESTIMATED SITE INTERFACE INSPECTION: 1995

ESTIMATED EQUIPMENT INSTALLATION: 1996

ESTIMATED EQUIPMENT COST: \$1,340K

EQUIPMENT LISTING

| <u>ITEM</u> | <u>QUANTITY</u> |
|--|-----------------|
| Range Control Station (ERETS) | 1 |
| Infantry Target Mechanism | 47 |
| Low Power Junction Box | 71 |
| Infantry Hostile Fire Simulator | 20 |
| Infantry Night Muzzle Flash Simulator | 40 |
| Target Holding Mechanism, Tank Gunnery | 20 |
| Armor Moving Target Carrier | 4 |
| Target Interface Unit | 24 |
| Armor Target Kill Simulator | 48 |
| Three Dimensional Target | 47 |

Appendix A to
ENCLOSURE (1)

DELIVERY SCHEDULE AND LIST OF ALLOWANCES

LOCATION: MCB, CAMP PENDLETON, CA
RANGE NO: 211
TYPE OF RANGE: INFANTRY PLATOON ASSAULT RANGE
FACILITY FUNDING INFO: P547
ESTIMATED CONSTRUCTION COMPLETION: 1995
ESTIMATED SITE INTERFACE INSPECTION: 1995
ESTIMATED EQUIPMENT INSTALLATION: 1996
ESTIMATED EQUIPMENT COST: \$425K

EQUIPMENT LISTING

| <u>ITEM</u> | <u>QUANTITY</u> |
|---------------------------------------|-----------------|
| Range Control Station (ERETS) | 1 |
| Infantry Target Mechanism | 47 |
| Infantry Moving Target Carrier | 17 |
| Low Power Junction Box | 30 |
| High Power Junction Box | 17 |
| Infantry Hostile Fire Simulator | 10 |
| Infantry Night Muzzle Flash Simulator | 47 |
| Three Dimensional Target | 47 |

Appendix A to
ENCLOSURE (1)

DELIVERY SCHEDULE AND LIST OF ALLOWANCES

LOCATION: MCAGCC, Twentynine Palms, CA
RANGE NO: 113
TYPE OF RANGE: Multipurpose Machine Gun Range
FACILITY FUNDING INFO: P507
ESTIMATED CONSTRUCTION COMPLETION: 1995
ESTIMATED SITE INTERFACE INSPECTION: 1995
ESTIMATED EQUIPMENT INSTALLATION: 1995
ESTIMATED EQUIPMENT COST: *To Be Determined

EQUIPMENT LISTING

| <u>ITEM</u> | <u>QUANTITY</u> |
|--|-----------------|
| Range Control Station (ERETS) | 1 |
| Infantry Target Mechanism (Double) | 130 |
| Infantry Target Mechanism (Single) | 10 |
| Infantry Moving Target Carrier | 10 |
| Low Power Junction Box | 140 |
| High Power Junction Box | 10 |
| Infantry Hostile Fire Simulator | 20 |
| Target Holding Mechanism, Tank Gunnery | 10 |
| Target Interface Unit | 10 |
| Armor Target Kill Simulator | 10 |
| Three Dimensional Target | 280 |

*Estimated Equipment Cost is not available at this time. The POC for this information is the RETS Project Officer, DSN 278-2546.

Appendix A to
ENCLOSURE (1)

6 Apr 94

LISTING OF CURRENT AND FUTURE RETS TECHNICAL MANUALS
AND THE EQUIPMENT TO WHICH THEY PERTAIN

| <u>DEVICE</u> | <u>CURRENT</u> | <u>FUTURE</u> |
|---|----------------------|---|
| Target Holding Mechanism, Tank Gunnery | TM 9-6920-442-14&P | TM 9-6920-742-14-5 TM 9-6920-742-24P-5 |
| Interconnecting Box, Target Interface Unit | TM 9-6920-742-14&P-1 | TM 9-6920-742-14-4 TM 9-6920-742-24P-4 |
| Armor Moving Target Carrier | TM 9-6920-742-14&P-2 | TM 9-6920-742-14-6 TM 9-6920-742-24P-6 |
| Armor Target Kill Simulator | TM 9-6920-742-14&P-4 | TM 9-6920-742-14-2 TM 9-6920-742-24P-2 |
| Target Mechanism, Training Set, Target | TM 9-6920-742-14&P-5 | TM 9-6920-742-14-3 TM 9-6920-742-24P-3 |
| Simulator, Night Muzzle Flash | TM 9-6920-742-14&P-5 | TM 9-6920-742-14-2 TM 9-6920-742-24P-2 |
| Carrier Mechanism, Target, Moving | TM 9-6920-742-14&P-6 | TM 9-6920-742-14-3 TM 9-6920-742-24P-3 |
| Rifle Fire Simulator | TM 9-6920-742-14&P-7 | TM 9-6920-742-14-2 TM 9-6920-742-24P-2 |
| Interconnecting Box, High Power | TM 9-6920-742-14&P-8 | TM 9-6920-742-14-4 TM 9-6920-742-24P-4 |
| Interconnecting Box, Low Power | TM 9-6920-742-14&P-8 | TM 9-6920-742-14-4 TM 9-6920-742-24P-4 |
| Range Control Station Adapter (Fault Isolate Adapter) | TM 9-6920-742-14&P-9 | TM 9-6920-742-14-1 TM 9-6920-742-24P-1 |
| Console Target | TM 9-6920-742-10 * | TM 9-6920-742-14-1 |
| Training Set, Range Control Station | TM 9-6920-742-24&P * | TM 9-6920-742-24P-1 |

Appendix B to
ENCLOSURE (1)

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* NOTE: Neither of these covers the Enhanced Remote Engagement Target System (ERETS) portion of the RCS. However, the new publications cover both.

Appendix B to
ENCLOSURE (1)

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U. S. ARMY CORPS OF ENGINEERS, HUNTSVILLE DIVISION
DESIGN MANUALS FOR REMOTE ENGAGEMENT TARGET SYSTEM RANGES

| | |
|-------------------------|--|
| HNDM 1110-1-5 Ranges | Design Manual for Infantry Rifle Marksmanship Including: Automated Field Fire Range Modified Record Fire Range Automated Record Fire Range Fire and Movement Range |
| HNDM 1110-1-6 | Design Manual for Multipurpose Range Complex |
| HNDM 1110-1-8 | Design Manual for Multipurpose Range Complex, Light Infantry |
| HNDM 1110-1-15 | Design Manual for RETS Equipped Ranges Including: Sniper Training Field Fire Range Multipurpose Machine Gun Transition Range Combat Pistol Qualification Course |
| HNDM 1110-1-16 | Design Manual for Multipurpose Training Range |
| HNDM 1110-1-19 | Design Manual for Infantry Squad Battle Course |
| HNDM 1110-1-22 | Design Manual for Infantry Platoon Battle Course |

NOTE: Some ranges within the Marine Corps, while bearing the same title as some of those above, have been modified slightly and in some cases radically, to meet Marine Corps requirements and training standards.

Appendix C to
ENCLOSURE (1)

ACTIVITY SHIPPING ADDRESSES

TRAFFIC MANAGEMENT OFFICE
MARINE CORPS AIR GROUND COMBAT CENTER
TWENTYNINE PALMS, CA 92278-5000
M/F: OIC, TAVSC
DoDAAC: M35016

TRAFFIC MANAGEMENT OFFICE
MARINE CORPS BASE
CAMP PENDLETON, CA 92055-5000
M/F: OIC, TAVSC
DoDAAC: N33062

TRAFFIC MANAGEMENT OFFICE
MARINE CORPS BASE
CAMP LEJEUNE, NC 28542-5000
M/F: OIC, TAVSC
DoDAAC: M93177

TRAFFIC MANAGEMENT OFFICE
MARINE CORPS COMBAT DEVELOPMENT CENTER
QUANTICO, VA 22134-5001
M/F: OIC, TAVSC
DoDAAC: M93031

Appendix D to
ENCLOSURE (1)